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(54) Title: BIARYL SUBSTITUTED THIAZOLES, OXAZOLES AND IMIDAZOLES AS SODIUM CHANNEL BLOCKERS

(57) Abstract: Biaryl substituted thiazole, oxazole and imidazole compounds are sodium channel blockers useful for the treatment of pain. Pharmaceutical compositions comprise an effective amount of the instant compounds, either alone, or in combination with one or more therapeutically active compounds, and a pharmaceutically acceptable carrier. Methods of treatment or prevention of conditions, including acute pain, chronic pain, visceral pain, inflammatory pain, and neuropathic pain comprise administering an effective amount of the present compounds, either alone, or in combination with one or more therapeutically active compounds.

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/11271

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07D 277/42, 277/56

US CL : 548/199, 200, 201

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 548/199, 200, 201

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
STN CAS ONLINE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Database CAPLUS on STN, Khoa Hoa, Ttruong Dai Hoc Tong Hop, Hanoi, Vietnam, 99:70610, Dang Nhu Tai et al. 'Azomethine bases and their derivatives. VI. Synthesis of some azomethine bases and 4-thiazolidinones containing both thiopene and thiazole rings' abstract, Tap Chi Hoa Hoc, (1982), 20(4), pages 9-10.	9-12

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

### \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

12 August 2004 (12.08.2004)

Date of mailing of the international search report

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/11271

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 1-8 and 13-31  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
Please See Continuation Sheet
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
- Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/11271

## Continuation of Box II Reason 2:

In these claims, numerous variables {e.g., HET, R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, etc.}, their voluminous involved meanings, their large number of permutations and combinations and the list of compounds in claims 9-16 make it virtually impossible to determine the full scope for which protection is sought. As presented, the claimed subject matter cannot be regarded as being a concise description for which protection is sought and as such, the claims do not comply with the requirements of PCT Article 6. Thus, it is impossible to carry out a meaningful timely search on same. A search will be provided on the first discernable invention which is the subject matter of claims 9-12.